Claims 2-5, 9-14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,997,817 to Crismore et al. The rejection is respectfully traversed. The Examiner's acknowledgement in Paper No. 6 of the claim for foreign priority under 35 U.S.C. 119 (a)-(d) or (f) is acknowledged. It is submitted that the present application has a foreign priority filing date that antedates the Crismore et al. reference and that is perfected. Reconsideration of the rejection, leading to its withdrawal is respectfully requested.

Claims 4, 5, 9-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,952,373 to Sugarman et al. in view of GB 2 090 659A to Kelley et al. The rejection is respectfully traversed in light of the amendments and accompanying remarks.

It is proposed that claims 9 and 16 each be amended to clarify that the sample application opening is "defined by at least one edge" and that the at least one notch "extends into the at least one edge". Support for the amendment is found in the claim itself as well as the specification and drawings. Particularly, support is found in Figs. 1E and 2. The amendment is properly entered here as it does not add new matter and puts the application in condition for allowance of better form for appeal.

It is submitted that in light of the above amendment, Sugarman et al. fails to disclose or suggest a device that has the following elements:

- a sample application opening defined by at least one edge wherein at least one notch in the form of a partial groove extends into the at least one edge
- one side of the edge of the sample application opening is at least partially interrupted by the at least one notch
- the surface facing the channel opposite to the at least one notch is exposed

The rejection proffers that the "well is a notch in the form of a groove or depression on the cartridge surface (21) *at the edge* of the sample application opening" (Emphasis added). See, Page 5 of the Office Action. As mentioned above, amended claims 9 and 16 require that the notch *extend into* the at least one edge of the sample application opening. Not one of the figures of Sugarman et al. discloses an edge of an opening with a notch extending into that edge. In fact, as shown in Fig. 1, the opening to the well 22 is defined by a smooth edge circular in shape.

Accordingly, the well 22 of Sugarman et al. cannot be said to be "a notch" as recited by amended claims 9 and 16.

With that in mind, it becomes apparent that Sugarman et al. fails to disclose or suggest a device wherein one side of the edge of the sample application opening is at least partially interrupted by at least one notch. Again, as shown in Fig. 1, the opening to the well 22 is defined by a smooth edge circular in shape. There is simply no disclosure or suggestion in Sugarman et al. of any opening having one side of its edge interrupted by a notch.

As Sugarman et al. lacks the recited notch, it further fails to disclose or suggest an exposed surface facing the channel opposite to the at least one notch. The rejection proffers that "Shield (10), which is the surface facing the capillary path opposite to the notch, is exposed (see FIGS. 1-3)". It is submitted that the shield 10 cannot be said to be the recited surface as it is neither a carrier nor a cover as defined by amended claims 9 and 16. Amended claims 9 and 16 require that a cover has a surface that cooperates with a surface of the carrier to form a capillary-active channel.

The rejection proffers that Sugarman et al. "do not explicitly disclose the surfaces of the cover and carrier cooperating to form a capillary-active channel". To the contrary, Sugarman et al. teaches that its capillary path is formed within the cartridge 20 spaced-apart from the shield 10. See, Column 2 lines 66-68 and the dotted lines of Figs. 1 and 3. Details regarding the structure of the cartridge 20 are disclosed in U.S. Pat. No. 4,756,884, which Sugarman et al. (Col. 3 lines 68-69) incorporates by reference. Specifically, USP 4,756,884 teaches that the path is formed by two injection-molded plastic pieces joined together by ultrasonic welding. Thus, it submitted that the cartridge 20 of Sugarman et al. has a capillary path formed between a first plastic piece with a top surface 21 (cover) and a second plastic piece (carrier). The Examiner's attention is directed to Figure 2 where these two separate pieces are illustrated, but not numbered.

It is further noted that the shield 10 of Sugarman et al. is affixed to the cartridge 20 and spaced-apart from the capillary path by the top surface 21 of said cartridge 20. Specifically, the shield 10 is affixed to the top surface 21 of the cartridge 20 at a location between the well 22 and the ultimate location of the monitor surface to be shielded. Column 3 lines 7-9 & 18-21. Referring now to Figs. 1-2, in its free state, the shield 10 extends away from the opening 22 and the dotted lines of Fig. 2 show the shield 10 deflected against the upper surface 21 of the cartridge, as when

packaged. Column 3 lines 9-13. Thus, at all times the shield 10 is physically spaced-apart from the capillary path and based upon the location and construction of its path, it is submitted that Sugarman et al. teaches away from the use of its shield 10 as a cover or a carrier. Therefore, the shield 10 simply does not form a cover or a carrier and therefore cannot be said to have a surface facing the channel opposite to the at least one notch as required by amended claims 9 and 16.

It is submitted that Kelley et al. fails to cure the inadequacies of Sugarman et al. Specifically, the rejection proffers that "Kelley et al. provide the limitation of the surfaces of the cover and carrier cooperating to form a capillary active channel". Page 5 of the Final Office Action. As with Sugarman et al. neither the strip 48 nor the support 10 of Kelley et al. cooperate to form:

- a sample application opening defined by at least one edge wherein at least one notch in the form of a partial groove extends into the at least one edge
- one side of the edge of the sample application opening is at least partially interrupted by the at least one notch
- the surface facing the channel opposite to the at least one notch is exposed

At most, Kelley et al. disclose a channel recess 16 defined by side walls 20 and bottom surface 22. See Page 2, Col. 1 lines 45-52. In contrast to amended claims 9 and 16, Kelley et al. teaches protrusions (sampling tip 12), which is opposite to that of a notch extending into an edge of a sample application opening. Accordingly, it is submitted that a combination of the Kelley and Sugarman et al. references would lead the skilled artisan away from the invention of amended claims 9 and 16. As such, it is submitted that either alone or in combination with one another there is no description or suggestion in Sugarman et al. and Kelley et al. of the device of amended claim 9 or of the method of amended claim 16. Claims 4, 5, and 10-14 depend from amended claim 9.

It is respectfully contended that the differences between the claimed invention and the cited art are such that Applicant's invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made. It is respectfully contended that the claimed invention meets the test of patentability under 35 U.S.C. 103(a). Entry of the amendments leading to reconsideration of the rejection

of the claims and withdrawal of the rejection, leading to allowance of the claims is respectfully requested.

Claims 2, 9 (alternative) and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,952,373 to Sugarman et al. and GB 2 090 659 A to Kelley et al. in view of U.S. Patent No. 5,997,817 to Crismore et al.

It is submitted that the present application has a foreign priority filing date that antedates the Crismore et al. reference and that is perfected. Accordingly, Crismore et al. is not available as a reference to the present application.

Claim 2 depends from amended claim 9. Amended claims 9 and 16 have been discussed above with reference to Sugarman et al. and Kelley et al. As discussed above, it is respectfully contended that the differences between the claimed invention and the cited art are such that Applicant's invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made. It is respectfully contended that the claimed invention meets the test of patentability under 35 U.S.C. 103(a). Entry of the amendments leading to reconsideration of the rejection of the claims and withdrawal of the rejection, leading to allowance of the claims is respectfully requested.

Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,952,373 to Sugarman et al. and GB 2 090 659 A to Kelley et al. and optionally U.S. Patent No. 5,997,817 to Crismore et al. in view of U.S. Patent No. 6,238,624 to Heller. Claims 7 and 15 depend from amended claim 9.

It is submitted that the present application has a foreign priority filing date that antedates the Crismore et al. reference and that is perfected. Accordingly, Crismore et al. is not available as a reference to the present application.

Details regarding Sugarman et al. and Kelley et al. have been discussed above with reference to amended claim 9. Heller et al. discloses a microelectronic device. It is submitted that Heller et al. fails to cure the inadequacies of Sugarman et al. and Kelley et al. in view of amended claim 9. As stated above, claims 7 and 15 depend from amended claim 9.

Further, it is submitted that neither Sugarman et al. nor Kelley et al. disclose or suggest surfaces in the capillary channel that are rendered hydrophilic. Moreover, Heller et al. does not teach oxidized aluminum surfaces as being hydrophilic. At most Heller et al. discloses that the slightly oxidized aluminum surfaces can be

functionalized by APS. But, this does in no way motivate one skilled in the art to hydrophilize surfaces, let alone by treatment with oxidized aluminum.

Therefore, it is respectfully contended that the differences between the claimed invention and the cited art are such that Applicant's invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made. It is respectfully contended that the claimed invention meets the test of patentability under 35 U.S.C. 103(a). Reconsideration of the rejections of the claims and withdrawal of the rejections leading to allowance of the claims is respectfully requested.

Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,997,817 to Crismore et al. in view of U.S. Patent No. 6,238,624 to Heller.

It is submitted that the present application has a foreign priority filing date that antedates the Crismore et al. reference and that is perfected. Accordingly, Crismore et al. is not available as a reference to the present application.

Further, it is submitted that there is no disclosure or suggestion in Heller et al. of the device of amended claim 9. Claims 7 and 15 depend from amended claim 9. It is respectfully contended that the differences between the claimed invention and the cited art are such that Applicant's invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made. It is respectfully contended that the claimed invention meets the test of patentability under 35 U.S.C. 103(a). Reconsideration of the rejections of the claims and withdrawal of the rejections leading to allowance of the claims is respectfully requested.

Claim 3 is rejected are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,952,373 to Sugarman et al. and GB 2 090 659 A to Kelley et al. and optionally U.S. Patent No. 5,997,817 to Crismore et al. in view of U.S. Patent No. 4,254,083 to Columbus. Claim 3 depends from amended claim 9.

It is submitted that the present application has a foreign priority filing date that antedates the Crismore et al. reference and that is perfected. Accordingly, Crismore et al. is not available as a reference to the present application.

Details regarding Sugarman et al. and Kelley et al. have been discussed above with reference to amended claim 9. Columbus et al. discloses a liquid transport device 10a composed of two members 12a and 14a. An aperture 30a extends through member 12a and a viewing port 80 is provided in support member 14a. Columbus

fails to cure the inadequacies of Sugarman et al. and Kelley et al. in relation to amended claim 9. Claim 3 depends from amended claim 9.

Therefore, it is respectfully contended that the differences between the claimed invention and the cited art are such that Applicant's invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made. It is respectfully contended that the claimed invention meets the test of patentability under 35 U.S.C. 103(a). Reconsideration of the rejections of the claims and withdrawal of the rejections leading to allowance of the claims is respectfully requested.

Claim 3 is rejected are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,997,817 to Crismore et al. in view of U.S. Patent No. 4,254,083 to Columbus. Claim 3 depends from amended claim 9.

It is again submitted that the present application has a foreign priority filing date that antedates the Crismore et al. reference and that is perfected. Accordingly, Crismore et al. is not available as a reference to the present application.

Further, it is submitted that there is no disclosure or suggestion in Columbus et al. of the device of amended claim 9. Claim 3 depends from amended claim 9. It is respectfully contended that the differences between the claimed invention and the cited art are such that Applicant's invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made. It is respectfully contended that the claimed invention meets the test of patentability under 35 U.S.C. 103(a). Reconsideration of the rejections of the claims and withdrawal of the rejections leading to allowance of the claims is respectfully requested.

This application is deemed to be in condition for allowance and as such is respectfully requested. In addition, if necessary, it is requested that this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and fees be charged to Deposit Account No. 50-0877 (with reference to RDID 0043 US).

Respectfully submitted,

Date: February 4, 2003

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Version with Markings to Show Changes Made

9. (Twice Amended) A device for withdrawing samples of liquid samples for analytical elements, wherein the device comprises:

a carrier and

a cover having a surface that cooperates with a surface of the carrier to form a capillary-active channel, the channel having a sample application opening defined by at least one edge and

wherein at least one notch in the form of a partial groove extends into the at least one edge [is located in one of the carrier and cover surfaces forming the channel at an edge] of the sample application opening of the channel so that one side of the edge of the sample application opening is at least partially interrupted by the at least one notch and the surface facing the channel opposite to the at least one notch is exposed.

16. (Twice Amended) A method for withdrawing a liquid sample into an analytical element, the method comprising the steps of providing a device that comprises a carrier and a cover having a surface that cooperates with a surface of the carrier to form a capillary-active channel having a sample application opening defined by at least one edge and wherein at least one notch in the form of a partial groove extends into the at least one edge [is located in one of the carrier and cover surfaces forming the channel at an edge] of the sample application opening of the channel so that one side of the edge of the sample application opening is at least partially interrupted by the at least one notch and the surface opposite to the at least one notch facing the channel is exposed and contacting the edge of the sample application opening adjacent to the notch with the liquid sample so that the liquid sample is transported by capillary forces into the channel.